IN THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF ILLINOIS

BEIJING CHOICE ELECTRONIC TECHNOLOGY CO., LTD.,)
Plaintiff,) Case No. 18-00825
V.	Honorable Sara L. Ellis
CONTEC MEDICAL SYSTEMS USA INC. and CONTEC MEDICAL SYSTEMS CO., LTD.,) Magistrate Judge Maria Valdez
Defendants.	** PUBLIC VERSION **

BEIJING CHOICE ELECTRONIC TECHNOLOGY'S MEMORANDUM IN SUPPORT OF ITS MOTION FOR PRELIMINARY INJUNCTION

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Plaintiff Beijing Choice Electronic Technology Co., Ltd. ("Choice") submits this memorandum in support of its Motion for a Preliminary Injunction.

I. INTRODUCTION

Choice seeks a preliminary injunction to stop the continued infringement of U.S. Patent No. 8,639,308 (the "'308 patent") by Defendants Contec Medical Systems USA Inc. ("Contec U.S.") and Contec Medical Systems Co., Ltd. ("Contec China") (collectively, "Contec"). The '308 patent is directed to a new fingertip pulse oximeter, which includes a display that provides greater ease of use and precision in measuring blood oxygen saturation levels and a single button for powering on and off the oximeter and switching between different display modes. Choice makes and sells fingertip pulse oximeters that include the features of the '308 patent. Choice's oximeters have had great success in the market, selling around units per quarter in recent years despite being hampered by Contec's infringement.

Contec also makes and sells fingertip pulse oximeters, including oximeters that use the claimed features of the '308 patent. These oximeters are not colorably different from Choice's oximeters, and infringe the '308 patent. Choice and Contec have about of the market for all-in-one non-hospital fingertip pulse oximeters in the United States. (Ex. B at ¶ 12.) Contec, however, by selling and importing into the United States products that infringe the '308 patent, has been cannibalizing Choice's market share and forcing Choice to reduce its oximeter prices.

Contec's ongoing sale of infringing oximeters will—if not enjoined by this Court—have a devastating effect on Choice's business. Contec's infringement has caused, and will continue to cause, irreparable harm to Choice. In fact, due to these infringing oximeters, Choice was forced to reduce the selling price of its oximeters using the features of the '308 patent, resulting in a reduction of their average quarterly price by about from the first quarter of 2015 to the

third quarter of 2017. As a result, the quarterly revenue generated from sales of those oximeters has dropped by about from the first quarter of 2015 to the third quarter of 2017.

Because of Contec's infringement, Choice has lost market share and suffered injury to its reputation, goodwill, and business relationships, despite having tried multiple approaches to salvage the decreasing sales and revenue, including promotions, advertisements, and customer outreach. Also, documents filed with a Chinese government agency show that Contec is preparing for an initial public stock offering ("IPO"), which will very soon provide Contec with increased resources to further marginalize Choice. Without a preliminary injunction, the irreparable harm Choice has been continuously suffering will be exacerbated.

The balance of any hardships favors granting a preliminary injunction here. Fingertip pulse oximeters constitute the vast majority of Choice's business, but the Infringing Products make up at most a third of Contec's sales. Also, Contec possesses its own noninfringing alternative for switching between different display modes, but nonetheless chooses to infringe Choice's patent.

The public interest falls squarely on the side of protecting Choice's patented innovation. The purpose of the patent system is to foster investment and innovation by granting inventors limited exclusive rights and a fair return for their inventions. Contec should not be permitted to use Choice's patented innovation without permission to replace Choice's oximeters and injure Choice's business. Consumers will not suffer shortage of fingertip pulse oximeters after Contec is enjoined, as Choice has more than enough manufacturing capacity to supply the market.

Therefore, Choice respectfully requests that this Court issue a preliminary injunction prohibiting Contec from making, using, selling, offering for sale, or importing infringing oximeters or any colorable variations thereof that infringe the '308 patent.

II. FACTUAL BACKGROUND

The human body requires and regulates a very precise balance of oxygen in arterial blood. (Ex. A at \P 7.) Normal levels of oxygen saturation fall within the narrow range from 95 to 100 percent. (*Id.*) If oxygen saturation drops below 90 percent, hypoxemia ensues. (*Id.*) Further lowered levels of oxygen saturation could result in impaired mental function, loss of consciousness, organ failure, and even death. (*Id.*)

Oximeters are critical instruments for measuring oxygen saturation in the human body.

(*Id.*) Because of the narrow range of normal oxygen saturation in arterial blood, oximeters must be precise. (*Id.*) The '308 patent relates to a specific type of oximeter—fingertip pulse oximeter, which is easy to use because of its compact size and because it does not require drawing blood and is thus noninvasive. (*See id.*)

When operated, a fingertip pulse oximeter is clipped onto the fingertip of a user. (*Id.*) One part of the oximeter passes light through the fingertip to a photodetector at another part of the oximeter. (*Id.*) The oximeter measures the absorbance of light by the fingertip. (*Id.*) Arterial blood flowing through the fingertip and having different levels of oxygen saturation absorbs the light at different but known rates. (*Id.*) Using the known rates, the oximeter calculates and displays to the user her oxygen saturation level and typically, also her pulse rate. (*Id.*) The photograph below shows how a Choice fingertip pulse oximeter is clipped onto a user's fingertip. (Ex. B at ¶ 5.) In this photograph, the display of the oximeter shows the user's oxygen saturation level (an SPO₂ of "97" below) and the user's pulse rate (a PR of "72" below). (*Id.*)

¹ Other types of oximeters exist, such as wrist oximeters, palm oximeters, and desktop oximeters. These other oximeters occupy different market segments and are irrelevant to this lawsuit, which relates to only fingertip pulse oximeters that have an all-in-one design that includes the display and power button.

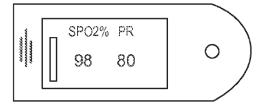


Conventional fingertip pulse oximeters have a drawback. (Ex. A at \P 8.) The measurement results may not be shown on the oximeter's display in an orientation conducive to convenient viewing. (*Id.* at \P 7.) As a result, users would often have to bend or twist their finger to read their oxygen saturation level. (*Id.*) But this action occludes arterial blood flowing through the fingertip, and in turn, affects the user's oxygen saturation level. (*Id.*) The normal levels of oxygen saturation in arterial blood fall within a narrow range. (*Id.*) The occlusion of arterial blood therefore prevents conventional fingertip pulse oximeters from having the exacting precision that they need. (*Id.*)

A. Choice's Innovation and the '308 Patent

The inventors of the '308 patent, Mr. Feng Xu and Mr. Shuhai Liu, recognized the above critical drawback of the conventional fingertip pulse oximeter. (*Id.* at ¶ 8.) They invented an elegant solution. First, they devised six different display modes illustrated below (copied from Figure 1 of the '308 patent). In each of these display modes, the measurement parameters (the "98" and "80" shown below) can be displayed in (1) upright standing way (e.g., Figs. 1A, 1E, and 1F), (2) portrait right laying way (e.g., Fig. 1B), (3) landscape upside-down standing way (e.g., Fig. 1C), or (4) portrait left laying way (e.g., Fig. 1D). (*Id.*) In addition to varying the orientation of the measurement parameters, these display modes also vary the display of pulse

column (e.g., the vertical bars in Figs. 1A-1D) and pulse waveforms (e.g., the horizontal waveform bars in Figs. 1E and 1F).



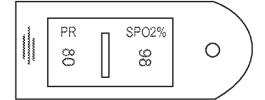
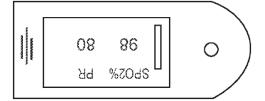


Fig. 1A (landscape upright standing way).

Fig. 1B (portrait right laying way).



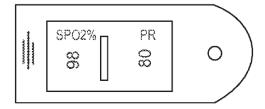
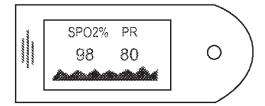


Fig. 1C (landscape upside-down standing way). Fig. 1D (portrait left laying way).



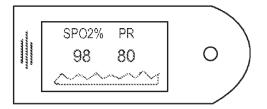


Fig. 1E (landscape upright standing way).

Fig. 1F (landscape upright standing way).

By switching between the different, specific display modes, a user is able to view the measurement parameters without having to bend or twist her finger. (Id. at ¶ 9.) Mr. Xu and Mr. Liu also conceived and implemented a design that requires no additional physical components added to the all-in-one enclosure of a fingertip pulse oximeter. (Id.) They redesigned the conventional oximeter, so that its power button served the additional purpose of allowing the user to switch between the different display modes. (Id.)

The '308 patent specifically claims the display mode change controlled by instructions received from the power button. ('308 patent, col. 7, l. 65-col. 9, l. 3.) Independent claim 1 covers a method for updating the display mode of a fingertip pulse oximeter, and independent

claim 4 covers a fingertip pulse oximeter. (*Id.* at col. 7, 1. 65-col. 8, 1. 17, col. 8, 1l. 30-57.)

Claim charts, showing infringement of claims 1, 2, 4, and 5 by Contec's Infringing Oximeters, are provided in Section IV.A.1.

B. Choice's Oximeters

Choice designs and manufactures medical devices such as oximeters and patient monitors. It is the leader in pulse oximetry solutions for use in the home. Choice makes and sells fingertip pulse oximeters that include the features of the '308 patent ("Patented Oximeters"), including those sold under the ChoiceMMed® brand. For instance, Choice's C2 Series fingertip pulse oximeters, including model numbers C29 and C2A, include the display and power-on/off features disclosed and claimed in the '308 patent, making Choice's oximeters much easier to use and more precise in measuring blood oxygen saturation levels than conventional oximeters.

Easier to use and free from the arterial-blood occlusion drawback in conventional fingertip pulse oximeters, Choice's Patented Oximeters have enjoyed great success in the United States market. Consumers liked their ability to precisely measure oxygen saturation levels and their ease of use. To operate the Patented Oximeters and switch through the different display modes, the user simply presses the power button. Because of these attractive features, Choice sold between and units of its Patented Oximeters in the United States each quarter from 2015 to 2017. (See Ex. B at ¶ 7, App'x 1.)

C. Contec's Oximeters

Contec manufactures, imports, and sells imports fingertip pulse oximeters under its own brand. Contec also acts as an original equipment manufacturer ("OEM") for others and those oximeters are also imported and sold in the United States under separate brands. Contec manufactures and OEMs two types of fingertip pulse oximeters. Contec's first type includes a

display that does not change. Contec, however, also manufactures, imports, and sells a type that incorporates the display-mode-changing feature claimed in the '308 patent, using a single power button. Specifically, Contec manufactures, sells, and imports into the United States at least Contec branded fingertip pulse oximeter model numbers CMS50D, CMS50D+, CMS50E, CMS50H, CMS50N, and CMS50QB and separately branded OEM pulse oximeters equivalent to or not colorably different than these models, which infringe the '308 patent (collectively, the "Infringing Oximeters").

Contec's Infringing Oximeters are virtual copies of the Patented Oximeters. They incorporate the Choice's display-mode-changing feature and use a single button to power the oximeter on and off and change the display mode. Contec's oximeters are also similar in size and shape to Choice's oximeters, sharing the same cartridge-like design that has one display and one button. They have the same functionality—measuring one's oxygen saturation levels while being clipped onto a user's fingertip. Appendix 19 to Exhibit D lists pictures of the Patented Oximeters and Infringing Oximeters side-by-side, showing their extreme similarity.

D. Contec's Infringement and Its Effect on Choice

Contec brought Infringing Oximeters into the United States market at significantly lower prices than those of Choice's Patented Oximeters. As a result of the Infringing Oximeters flooding the market, Choice's prices and revenue severely suffered. Contec's infringing actions have forced Choice to lower the price of its C2 Series oximeters supplied to distributors and retailers from the first quarter of 2015 to the third quarter of 2017. (Ex. B at ¶ 8, App'x 1.)

Compared to a selling price of in the first quarter of 2015, the price of Choice's oximeters dropped by about in the third quarter of 2017. (*Id.*) The revenue generated from sales of Choice's C2 Series oximeters dropped from in the first quarter of 2015 by about to in the third quarter of 2017. (*Id.*) The two line graphs below, from

Appendix 1 of Exhibit B, show how the average quarterly price of Choice's Patented Oximeters and the quarterly revenue generated from sales of the same have both been decreasing since the beginning of 2015.

Prices of Choice's C2 Series



(Ex. B, App'x 1.)

Revenue from Sales of Choice's C2 Series



(*Id*.)

As described in Section IV.A.1 below, Contec's Infringing Oximeters infringe at least claims 1, 2, 4, and 5 of the '308 patent. This infringement coupled with Contec's aggressive price cutting has led to lost sales and price erosion of Choice's Patented Oximeters, drastically reducing Choice's revenue. It has also undermined Choice's goodwill and exclusive position with its customers.

III. LEGAL STANDARD

Federal Circuit precedent controls preliminary injunctions based on patent infringement. *Revision Military, Inc. v. Balboa Mfg. Co.*, 700 F.3d 524, 525-26 (Fed. Cir. 2012). To obtain a preliminary injunction against Contec, Choice needs to establish that: (1) Choice is likely to succeed on the merits, (2) Choice is likely to suffer irreparable harm in the absence of preliminary relief, (3) the balance of equities tips in Choice's favor, and (4) an injunction is in the public interest. *Id.* at 525 (quoting *Winter v. Natural Resources Defense Council, Inc.*, 555 U.S. 7, 20 (2008)).

IV. ARGUMENT

A. Choice Is Likely to Succeed on the Merits

To establish that Choice is likely to succeed on the merits, Choice needs to show that "it will likely prove infringement of the asserted claims and that its infringement claim will likely withstand the [Contec's] challenges to patent validity and enforceability." *Metalcraft of Mayville, Inc. v. The Toro Co*, 848 F.3d 1358, 1364 (Fed. Cir. 2017) (internal citations omitted). A patent is presumed valid under 35 U.S.C. § 282, and infringement thereof needs only be proved by a preponderance of the evidence. *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 134 S. Ct. 1749, 1758; *Abbott Labs. v. Sandoz Inc.*, 544 F.3d 1341, 1346 (Fed. Cir. 2008).

1. Contec's Products Infringe Choice's Patent

As described in the exemplary claim chart below, Contec's CMS50D fingertip pulse oximeter infringes at least claims 1, 2, 4, and 5 of the '308 patent. The chart cites the CMS50D user manual (Appendix 1 to Exhibit D), a video showing the operation of the CMS50D (Appendix 7 to Exhibit D), and a photograph showing a disassembled CMS50D (Appendix 13 to Exhibit D). The chart shows that the CMS50D includes every element of the asserted claims, proving that the CMS50D infringes. The additional claim charts in Exhibit E show that the remaining Infringing Oximeters also infringe the '308 patent.

Claim 1	Contec CMS50D Product Feature
	Contec's CMS50D fingertip oximeter is used to perform a method for updating a display mode while the oximeter is in use. The display mode shows a measurement result, as shown in the picture below, from Appendix 1 to Exhibit D (CMS50D Manual) at Section 6 (Figure 4). Low-battery indication Sp0 ₂
[1.0] A method for updating a display mode of a measurement result of a fingertip oximeter on a display while the fingertip oximeter is in use, the method comprising:	pulse bar graph pulse waveform Figure 4 Front view (Ex. D, App'x 1 at § 6 (Fig. 4).) Appendix 7 to Exhibit D shows the CMS50D in use. The user turns on the CMS50D at 00:06 (shown below).



(Ex. D, App'x 7 at 00:06.)

Appendix 7 to Exhibit D at 00:20 (shown below) shows the CMS50D's display mode illustrating the measurement result.



(Ex. D, App'x 7 at 00:20.)

A user updates the current display mode of the CMS50D by pressing its power button. The user instruction is the act of pressing the button.

Appendix 7 to Exhibit D at 00:23 (shown below) shows the user pressing the power button to update the current display mode.

[1.1] detecting a user instruction for updating a current display mode of the fingertip oximeter when the user presses down a button,



(Ex. D, App'x 7 at 00:23.)

[1.2] said button further controlling a power source of the fingertip oximeter,

The button for updating the CMS50D's current display mode is the power button (shown as "button" in Appendix 1 to Exhibit D at Section 6 (Figure 4)), which "control[s] a power source of the fingertip oximeter."

	1. 7. E 11. D . 00 00 1
	Appendix 7 to Exhibit D at 00:06 shows the user turning on the CMS50D by pressing the power button.
	The current display mode illustrates the measurement result.
	Appendix 7 to Exhibit D at 00:20 (shown below) shows the CMS50D's current display mode illustrating the measurement result.
[1.3] said current display mode illustrating the measurement result,	(Ex. D, App'x 7 at 00:20.)
[1.4] said measurement result including measurement parameters,	The measurement result includes measurement parameters (<i>See</i> , e.g., Ex. D, App'x 1 at § 7 ("SpO ₂ " and "PRbmp" in Fig. 10); Ex. D, App'x 7 at 00:20 ("97" and "82").)
[1.5] said measurement parameters being displayed in an upright standing way, a portrait right laying way, a landscape upside-down standing way, or a portrait left laying way;	The measurement parameters are displayed in a portrait left laying way. (Compare Ex. D, App'x 7 at 00:20 with '308 patent Fig. 1D (both shown below).) (Ex. D, App'x 7 at 00:20.) (Ex. D, App'x 7 at 00:20.) ('308 patent Fig. 1D (portrait left laying way).)
[1.6] generating, by a central processor, a new	When the user presses the power button, CMS50D accordingly generates a new display mode to display the measurement result.
central processor, a new	generates a new dispilay mode to dispilay the measurement result.

display mode to display the measurement result according to the instruction,

Appendix 1 to Exhibit D at § 7 states: "Press the button shortly when the device is power on, the display mode will change"

Appendix 7 to Exhibit D at 00:25 (shown below) shows a new display mode to display the measurement result after the user presses the power button.



(Ex. D, App'x 7 at 00:25.)

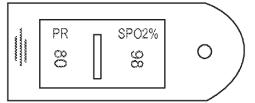
The generation of the new display mode is necessarily achieved through a central processor, which is used to display information on the CMS50D. (Ex. D, App'x 13 (photograph of disassembled CMS50D) (showing central processor).)

Appendix 7 to Exhibit D at 00:25 shows that the new display mode displays the measurement parameters in a different way—portrait right laying way—than the current display mode. (*Compare* Ex. D, App'x 7 at 00:25 *with* '308 patent Fig. 1B (both shown below).)

[1.7] the new display mode displaying the measurement parameters in a different way than the current display mode; and



(Ex. D, App'x 7 at 00:25.)



'308 patent Fig. 1B (portrait right laying way).

[1.8] displaying, on the display, the new display	Appendix 7 to Exhibit D at 00:25 (shown above) shows that the
mode in place of the current display mode.	new display mode is in place of the current display mode.

Claim 2	Contec CMS50D Product Feature
[2.0] The method of claim 1, further comprising:	See below.
[2.1] detecting that the button is pressed down;	When the power button is pressed down, CMS50D detects the action to perform power control and to change display modes.
[2.2] determining whether the fingertip oximeter is powered on;	The CMS50D reacts differently based on whether it is powered on or off. <i>See</i> elements 2.3 and 2.4. Therefore, it determines whether it is on or off when the user presses the power button.
	If the user presses the power button while the CMS50D is turned off, the CMS50D is turned on, necessarily by turning on the power source to provide power to the CMS50D. Appendix 7 to Exhibit D at 00:04 (shown below) shows the user pressing the power button when the CMS50D turned off.
[2.3] if the fingertip oximeter is powered off, turning on the power source to provide power to the fingertip oximeter in response to the press-down of the button; and	(Ex. D, App'x 7 at 00:04.) Appendix 7 to Exhibit D at 00:06 (shown below) shows the CMS50D being turned on in response to the user pressing the power button.

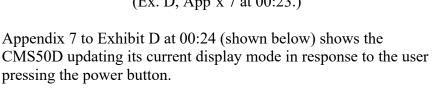


(Ex. D, App'x 7 at 00:06.)

If the user presses the power button while the CMS50D is turned on, the CMS50D updates its current display mode by generating an interrupt signal.

Appendix 7 to Exhibit D at 00:25 (shown below) shows the user pressing the power button when the CMS50D is turned on.

(Ex. D, App'x 7 at 00:23.)





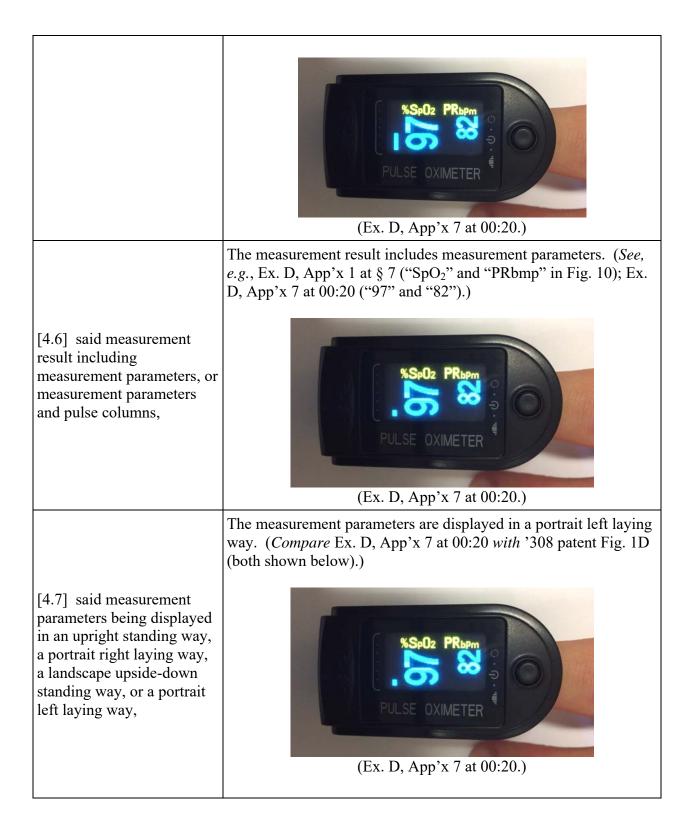
(Ex. D, App'x 7 at 00:25.)

[2.4] if the fingertip oximeter is powered on, generating an interrupt signal for updating the

current display mode in response to the press-down

of the button.

Claim 4	Contec CMS50D Product Feature	
	The CMS50D is a fingertip oximeter.	
	Appendix 1 to Exhibit D at § 6 (Figure 7) states: "Put finger in position." Figure 7 is shown below.	
[4.0] A fingertip oximeter comprising:	Figure 7 Put finger in position	
	(Ex. D, App'x 1 at § 6 (Fig. 7).) The CMS50D includes a power source unit.	
[4.1] a power source unit for supplying power to the fingertip oximeter;	Appendix 1 to Exhibit D at § 6 states: "[I]nsert the two AAA size batteries properly in the right direction."	
[4.2] a button for receiving a user instruction to update	The CMS50D's power button is used for receiving a user instruction (the pressing of the button) to update a current display mode.	
a current display mode,	Appendix 1 to Exhibit D at § 7 states: "When the device is power on, pressing the button shortly can change direction of the screen."	
[4.3] the button further	The CMS50D's power button also controls the power source.	
controlling the power source; and	Appendix 1 to Exhibit D at § 7 states: "When the device is power off, pressing the button can open it."	
[4.4] a central processor for updating the current display mode while the fingertip oximeter is in use,	Timaanna ine cuiteni aisniav mode while ine imaerin ovimeler is - i	
[4.5] said current display mode illustrating a measurement result of the fingertip oximeter,	The current display mode illustrates a measurement result. Appendix 7 to Exhibit D at 00:20 (shown below) shows the CMS50D's current display mode illustrating the measurement result.	



	('308 patent Fig. 1D (portrait left laying way).) The button also controls the power source unit of the fingertip
	oximeter. Appendix 7 to Exhibit D at 00:06 shows the power button controls the power source unit to turn on the CMS50D when user presses the power button.
[4.8] wherein said button also controls the power source unit of the fingertip oximeter,	Ver 5.2 PULSE OXIMETER (Ex. D, App'x 7 at 00:06.)
[4.9] the central processor being configured to: detect the user instruction when the user presses down the button; and	The CMS50D's central processor is configured to detect the user instruction when the user presses down the button. (Ex. D, App'x 13 (showing central processor).)
[4.10] generate a new display mode to display the measurement result according to the instruction,	When the user presses the power button, CMS50D, through its central processor, accordingly generates a new display mode to display the measurement result.
	Appendix 7 to Exhibit D at 00:25 (shown below) shows a new display mode to display the measurement result after the user presses the power button.

	(Ex. D, App'x 7 at 00:25.)	
	Appendix 7 to Exhibit D at 00:25 shows that the new display mode displays the measurement parameters in a different way—portrait right laying way—than the current display mode. (<i>Compare</i> Ex. D, App'x 7 at 00:25 with '308 patent Fig. 1B (both shown below).)	
[4.11] the new display mode displaying at least one of the heading or the measurement parameters in a different way than the current display mode, and	(Ex. D, App'x 7 at 00:25.)	
	('308 patent Fig. 1B (portrait right laying way).)	
[4.12] a display for displaying the new display mode in place of the current display mode.	Appendix 7 to Exhibit D at 00:25 (shown above) shows that the new display mode is in place of the current display mode.	

Claim 5	Contec CMS50D Product Feature	
[5.0] The fingertip oximeter of claim 4, wherein the central processor is further configured to:	See below.	
[5.1] detect that the button is pressed down;	When the power button is pressed down, CMS50D detects the action to perform power control and to change display modes.	
[5.2] determine whether the fingertip oximeter is powered on;	The CMS50D reacts differently based on whether it is powered on or off. <i>See</i> elements 5.3 and 5.4. Therefore, it determines whether it is on or off when the user presses the power button.	
[5.3] if the fingertip oximeter is powered off,	If the user presses the power button while the CMS50D is turned off, the CMS50D is turned on, necessarily by turning on the power	

turn on the power source to provide power to the fingertip oximeter in response to the press-down of the button; and

source to provide power to the CMS50D.

Appendix 7 to Exhibit D at 00:04 (shown below) shows the user pressing the power button when the CMS50D turned off.



(Ex. D, App'x 7 at 00:04.)

Appendix 7 to Exhibit D at 00:06 (shown below) shows the CMS50D being turned on in response to the user pressing the power button.



(Ex. D, App'x 7 at 00:06.)

If the user presses the power button while the CMS50D is turned on, the CMS50D updates its current display mode by the CMS50D generating an interrupt signal. Appendix 7 to Exhibit D at 00:23 (shown below) shows the user

[5.4] if the fingertip oximeter is powered on, generate an interrupt signal for updating the current display mode in response to the press-down of the button.

pressing the power button when the CMS50D is turned on.



(Ex. D, App'x 7 at 00:23.)

Appendix 7 to Exhibit D at 00:25 (shown below) shows the CMS50D updating its current display mode in response to the user pressing the power button.



(Ex. D, App'x 7 at 00:25.)

Thus, Contec's CMS50D infringes at least claims 1, 2, 4, and 5 of the '308 patent.² As shown in Ex. E, Contec's model numbers CMS50D+, CMS50E, CMS50H, CMS50N, and CMS50QB also infringe those claims. Choice is therefore likely to succeed on the merits by proving infringement by a preponderance of the evidence.

2. Choice's Patent Is Valid and Enforceable

To the extent Contec attempts to avoid a preliminary injunction by asserting that the asserted claims are invalid or unenforceable, Contec, as "the party bearing the burden of proof on the issue at trial, must establish a substantial question of invalidity or unenforceability, i.e., that it is *likely to succeed* in proving invalidity or unenforceability of the asserted patents." *Abbott Labs. v. Andrx Pharm., Inc.*, 473 F.3d 1196, 1201 (Fed. Cir. 2007) (emphasis added).

The '308 patent is presumed valid under 35 U.S.C. § 282 at all stages of a litigation, including during the preliminary-injunction stage. *Abbott Labs. v. Sandoz Inc.*, 544 F.3d 1341, 1346 (Fed. Cir. 2008). The patent resulted from a thorough examination by the United States

² Based on information and belief, the CMS50D and the other Infringing Oximeters also infringe claims 3 and 6, which recite: "the central processor . . . take[s] over control of the power source after the button is released."

Patent and Trademark Office following a search for all relevant prior art and detailed consideration of numerous prior art references, which are identified on the face of the patent. Additionally, the '308 patent's Chinese counterpart—which contains claims substantially the same as independent claims 1 and 4 of the '308 patent and to which the '308 patent claims priority—also underwent a thorough examination by the State Intellectual Property Office of the People's Republic of China, following a search for all relevant prior art. (Ex. F (Chinese Pat. No. 20061008952.9) at Translated Pages 1-3.) The Chinese counterpart's validity is strengthened by a Chinese appellate court's finding that a distinguishing patented feature is using the power button for not just controlling power, but also controlling the display orientation. (Ex. G (Chinese Appellate Court Opinion Regarding Chinese Pat. No. 20061008952.9) at Translated Page 7.) The court also noted that the prior art cited by the accused infringer does not disclose this distinguishing feature. (*Id.* at Translated Page 5.)

The '308 patent cannot be invalidated unless Contec proves invalidity by clear and convincing evidence. *Abbott Labs. v. Sandoz, Inc.*, 500 F. Supp. 2d 807, 816-17 (N.D. Ill. 2007), *aff'd*, 544 F.3d 1341 (Fed. Cir. 2008); *see also Trading Techs. Int'l*, 370 F. Supp. 2d at 694. Contec cannot show that it will likely be able to do so. In fact, since similar claims have been through a foreign court's scrutiny, they will likely withstand a validity challenge in this case.

B. Choice Has Been Suffering and Will Continue to Suffer Irreparable Harm Without a Preliminary Injunction

The Federal Circuit has held that "price erosion, loss of goodwill, damage to reputation, and loss of business opportunities are all valid grounds for finding irreparable harm." *Celsis in Vitro, Inc. v. Cellzdirect, Inc.*, 664 F.3d 922, 930 (Fed. Cir. 2012) (affirming the grant of preliminary injunction); *see also Abbott Labs v. Sandoz, Inc.*, 544 F.3d 1341 (affirming the grant of a preliminary injunction); *Robert Bosch LLC v. Pylon Mfg. Co.*, 659 F.3d 1142, 1151 (Fed.

Cir. 2011) (finding irreparable harm and reversing the denial of a permanent injunction). Permitting the continued sale of the Contec's Infringing Oximeters would cause these types of harm to Choice that cannot be adequately relieved by future monetary damages. *Celsis in Vitro*, *Inc.*, 664 F.3d at 930 ("the mere possibility of future monetary damages does not defeat a motion for a preliminary injunction").

Choice and Contec are direct competitors in the fingertip pulse oximeter market, and Contec's sale of each Infringing Oximeter directly results in a lost sale of a Patented Oximeter. As shown in Section IV.A.1, Contec's Infringing Oximeters are virtual copies of Choice's Patented Oximeters. They incorporate the same display-mode-changing feature claimed in the '308 patent, using the single power button. They are also similar in size and shape, sharing the same cartridge-like design that has one display and one button. They have the same functionality—measuring one's oxygen saturation levels while being clipped onto a user's fingertip. Appendix 19 to Exhibit D shows their great similarity.

The patented features of the '308 patent drive the sales of both Contec's Infringing Oximeters and Choice's Patented Oximeters. As discussed in Section II.B above, users desire the patented features, because they allow them to easily operate the oximeters without having to bend or twist their fingers, which could result in incorrect measurements of oxygen saturation levels. Contec understands the users' desire and touts on its website, as a selling point, that its Infringing Oximeters' "display mode can be changed" or "display direction can be changed."

(Ex. D, App'x 20 (Webpage for CMS50D) at 1, App'x 21 (Webpage for CMS50D+) at 1, App'x 22 (Webpage for CMS50E) at 1, App'x 23 (Webpage for CMS50H) at 1, App'x 24 (Webpage for CMS50N) at 1, App'x 25 (Webpage for CMS50QB) at 1.) It also highlights these patented features in its product manuals. (Ex. D, App'x 1 at § 7 ("When the device is power on, pressing

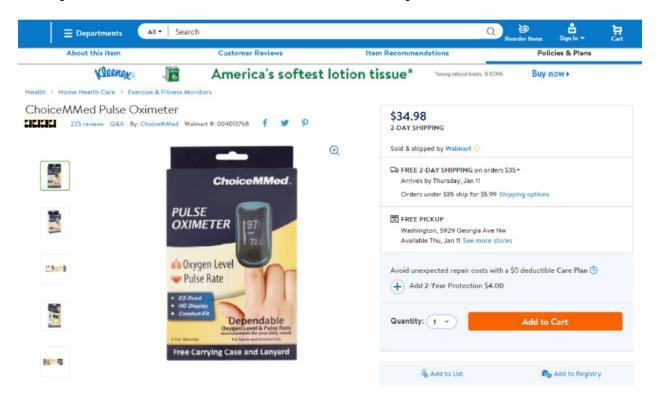
the button shortly can change direction of the screen."). For example, Contec's CMS50D manual shows different display orientations. (*Id.*) Because the patented features of the '308 patent drive the sales of the Infringing Oximeters and the Patented Oximeters, and because the Infringing Oximeters and the Patented Oximeters are highly similar and interchangeable, each sale of an Infringing Oximeter to a customer is one lost sale of a Patented Oximeter to that customer. Therefore, Contec's infringement directly harms Choice.

Contec's introduction of the Infringing Oximeters has drastically hurt the prices of and revenue generated from Choice's Patented Oximeters. As described above, compared to the price of in the first quarter of 2015, the price dropped by about to in the third quarter of 2017. (Ex. B at ¶ 9, App'x 1.) The revenue generated from sales of Choice's C2 Series oximeters dropped from in the first quarter of 2015 by about to in the third quarter of 2017. (*Id.*)

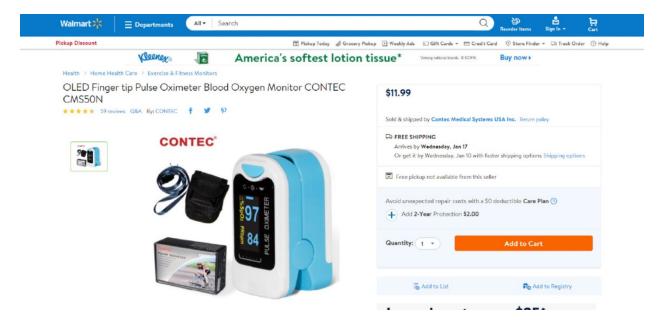
The dramatic price cuts for the Patented Oximeters come as a result of Contec's infringement. Contec offers to distributors and retailers the Infringing Oximeters at significantly lower prices than those of Choice's Patented Oximeters. (*See, e.g.*, Ex. H (Dec. 16, 2016 email from (stating Contec prices are (cheaper than Choice's).) The distributors and retailers, in turn, also offer to the end users the Infringing Oximeters at significantly lower prices—often less than 50% than those of the Patented Oximeters. The table below describes the retail prices of some Patented Oximeters and comparable Infringing Oximeters.

Choice Model	Choice Prices	Contec Model	Contec Prices
C2A	\$49.99 (ChoiceMMed)	CMS50D	\$15.95 (Amazon)
	\$49.99 (Target)		\$16.50 (Newegg)
	\$49.99 (ChoiceMMed)	CMS50N	\$13.95 (Amazon)
	\$34.99 (Target)		\$11.99 (Newegg)
	\$34.98 (Walmart)		\$11.99 (Walmart)

(Ex. D at ¶ 26; compare Ex. D, App'x 26 (\$49.99 for Choice's C2A oximeter), App'x 27 (same) with App'x 31 (\$15.95 for Contec's CMS50D), App'x 32 (\$16.50 for CMS50D); compare Ex. D, App'x 28 (\$49.99 for Choice's C29 oximeter), App'x 29 (\$34.99 for C29), App'x 30 (\$34.98 for C29) with App'x 33 (\$13.95 for Contec's CMS50N), App'x 34 (\$11.99 for CMS50N), App'x 35 (\$11.99 for CMS50N).) As an example, screenshots from Walmart's websites showing the above prices for Choice's C29 and Contec's CMS50N are reproduced below.



(Ex. D, App'x 30.)



(Ex. D, App'x 35.)

To prevent losing market share to Contec, Choice has been forced to continuously reduce the prices of its Patented Oximeters and fund various promotions. (Ex. B at ¶ 11.) Because Choice had to invest in developing the patented features, Choice's products have a considerably higher cost basis compared to the Infringing Oximeters. Choice therefore cannot afford to cut prices as aggressively as Contec, and as a result, Contec's campaign on price not only drives down Choice's price, it also pries away long-time customers of Choice. (*Id.*) Given Contec's similar product offerings and aggressive pricing strategy, Choice lost sales from long-time customers because it could not match the artificially low prices of the Infringing Oximeters. (*Id.*) Reduced prices, together with stagnant sales, have dramatically lowered Choice's revenue. In these instances, Choice's goodwill is also harmed. Customers who turn away from Choice could often see Choice as uncompetitive or unwilling to cooperate in pricing negotiations.

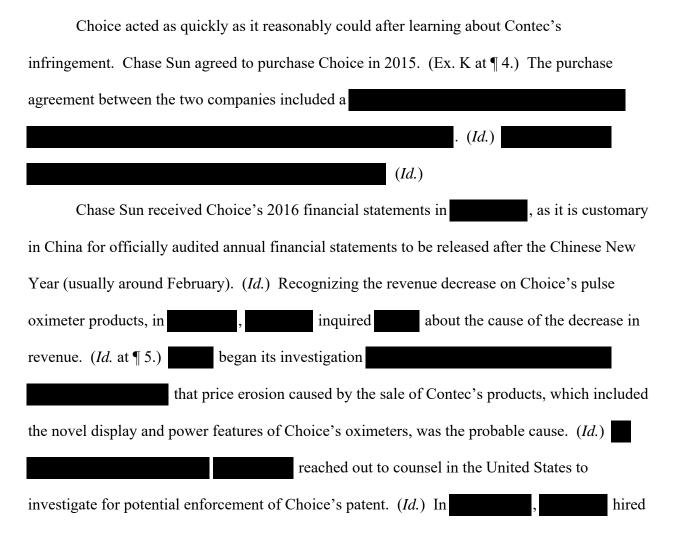
What makes Contec's infringement and sales practices even more threatening to Choice is Contec's upcoming IPO, which would give Contec additional funding and the power to expand production and overtake the market. The harm to Choice would almost certainly be

exacerbated if Contec succeeds with its IPO. According to reports submitted to the China Securities Regulatory Commission by Contec's consulting firm, starting in November 2016, Contec has engaged a consulting firm to prepare for its upcoming IPO. (Ex. I at Translated Page 1; Ex. J at Translated Page 1.) In both February and June 2017, the firm reported that Contec "achieved expected results" in preparing for its IPO. (Ex. I at Translated Page 1; Ex. J at Translated Page 1.) The reports also show that from 2014 to 2016, Contec's revenue grew by 60%, income grew by 65%, and shareholder equity grew by 64%. Ex. I at Translated Page 5; Ex. J at Translated Pages 4-5. This high growth rate would almost certainly be amplified should Contec successfully complete its IPO, giving Contec more resources than ever to pour more Infringing Oximeters into the market and at predatory prices.

If the sale of Contee's Infringing Oximeters is permitted to continue while this matter is fully litigated, it will have a devastating effect on Choice's core business—its Patented Oximeters. The impact would go beyond lost sales and profits. Fingertip pulse oximeters, including the Patented Oximeters, are the most important product line Choice designs and manufactures and are therefore tied to Choice's customer goodwill. (*See* Ex. B at ¶ 13.)

Contec's continued infringement will cause Choice to suffer irreparable losses in business, employees, reputation, and goodwill that can never be regained. Customer goodwill has no price. Distribution channels and customers lost to Contec are invaluable and hard to regain. Former employees are difficult to rehire. Research cannot easily be resumed once cancelled. These damages constitute irreparable harm to Choice, and they are especially irreparable and irreversible because fingertip pulse oximeters make up of Choice's total revenue. (*Id.*) Should this core business become significantly damaged or forever lost, Choice may no longer be the company it is now.

These types of harm are irreparable and cannot be adequately remedied by monetary damages. *Trading Techs. Int'l, Inc. v. eSpeed, Inc.*, No. 04 C 5312, 2008 WL 4531371, at *3 (N.D. Ill. May 22, 2008) (recognizing "the existence of the infringing products in the marketplace causes irreparable harm to [the patentee's] market share and goodwill in the industry"). Because it is "virtually impossible to ascertain the precise economic consequences of intangible harms, such as damage to reputation and loss of goodwill," *Ty, Inc. v. Jones Group, Inc.*, 237 F.3d 891, 902 (7th Cir. 2001) (citation omitted), this Court should issue a preliminary injunction.



counsel in the United States for Choice to conduct prelitigation diligence to potentially launch a patent infringement lawsuit in the United States. (*Id.*)

Therefore, Choice acted diligently to retain counsel and file this action and this Motion for Preliminary Injunction. As a result, the timing of this action does not show delay by Choice or show that Choice might not suffer irreparable harm without a preliminary injunction. To the extent that the court finds that any delay exists, it should "excuse delayed requests for Rule 65 relief when . . . the movant has offered a 'good explanation' for that delay." *See Advanced Commc'n Design, Inc. v. Premier Retail Networks, Inc.*, 46 F. App'x 764, 984 (Fed. Cir. 2002). Choice has explained the circumstances surrounding its timing for filing this lawsuit and this Motion for Preliminary Injunction.

In view of the above, Choice will suffer irreparable harm if the Court does not issue a preliminary injunction.

C. The Balancing of Hardships Favors a Preliminary Injunction

Fingertip pulse oximeters constitute a great majority of Choice's business, but they account for less than a third of Contec's business. (Ex. B at ¶ 13; Ex. L (Contec 2016 Annual Report) at Translated Page 13.) As a result, the negative impact that Contec's continued infringement has on Choice greatly outweighs any hardships Contec may experience if the Court grants a preliminary injunction. Contec's infringement has resulted in a price drop of about for the Patented Oximeters from the first quarter of 2015 to the third quarter of 2017. (Ex. B at ¶ 10, App'x 1.) It has also resulted in a drop of about in quarterly revenue from the first quarter of 2015 to the third quarter of 2017. (*Id.*)

Should Contec's infringement continue, Choice likely will be forced out of business by the time this litigation concludes. In contrast, if Contec is enjoined, Contec will continue to enjoy revenue from the remaining two-thirds of its business.

Contec could also sell noninfringing fingertip pulse oximeters to make up for any lost revenue resulting from an injunction. Contec already has noninfringing alternatives on the market, such as those models that do not change display modes. Even for its display-changing Infringing Oximeters, Contec has alternative designs at its disposal. U.S. Patent No. 9,402,572 (the "572 patent," Exhibit M) and No. 9,474,477 (the "477 patent," Exhibit N) each lists on its face Contec China as its assignee. Both patents disclose fingertip pulse oximeters whose displays can automatically change their orientations by using an accelerometer (a sensor commonly used in smartphones and tablets to enable automatic screen-orientation change when they are turned sideways). (Ex. M at abstract ("[T]he data displayed is allowed to always face the users by adding an acceleration sensor to the circuit Users can always read the data from the front side no matter which way they move."); Ex. N at abstract ("The present invention uses accelerometers to judge the placing location of the [oximeter] without the need for any operation from the user, and the [oximeter] can automatically change the display orientation of the display").) The '572 patent and the '477 patent were issued from applications first filed on February 20, 2012 and September 24, 2012, respectively, suggesting that Contec had noninfringing design options at least as early as 2012, but nonetheless chooses to infringe the '308 patent.

Contec decided to copy Choice's products and take advantage of the market Choice established with its patented features. It made and sold infringing and strikingly similar products—similar in size and shape, sharing the same cartridge-like design that has one display and one button. (Ex. D, App'x 19.) Promoting a new product with a higher manufacturing cost and with features untested in a foreign market may have presented challenges and unpredictability to Contec but that does not excuse or justify copying Choice's product and

infringing Choice's patent. And having access to its own noninfringing alternatives, Contec will not suffer any hardship if the Court enjoins the sale of its Infringing Oximeters. It at most takes Contec back to the route it should have traveled in order to compete in a noninfringing way. The decision to take a free ride by "slavish[] cop[ying]" tips the balance of equities in Choice's favor. *See Cornucopia Prods., LLC v. Dyson, Inc.*, No. 12-cv-00234, 2012 WL 3094955 (D. Ariz. July 27, 2012) (finding that accused infringer "slavishly copied" the patentee's product design and ruling that the balance of equities tips toward the patentee's favor). Therefore, Contec will not be unduly harmed by an injunction, and the balance of equities tips toward Choice's favor.

Last, even if an injunction would harm Contec, "[o]ne who elects to build a business on a product found to infringe cannot be heard to complain if an injunction against continuing infringement destroys the business so elected." *Robert Bosch LLC*, 659 F.3d at 1156; *see also Sanofi-Synthelabo v. Apotex, Inc.*, 470 F.3d 1368, 1383 (Fed. Cir. 2006) (balance of hardships favors the patentee where the infringer has taken a "calculated risk" by launching its product before a final judgment).

In view of the above, the balance of hardships and equities tips in Choice's favor and warrants a preliminary injunction.

D. The Public Interest Favors a Preliminary Injunction

Granting preliminary injunctive relief will further the public policy of encouraging innovation and respecting patents. The grant of an injunction will not harm the public, since Contec can continue to make and sell noninfringing fingertip pulse oximeters that comply with federal regulations and public policy, especially oximeters that embody its own patents. (*See* Exs. M, N.) The grant of an injunction will also not cause any harm to the public because Choice has the capability to meet the market demand for the Patented Oximeters after Contec is enjoined. (*See* Ex. O at ¶ 4.) Contec's annual sales of fingertip pulse oximeters in the United

States average about units. (Ex. B at ¶ 12.) Choice's annual worldwide sales average units. Choice has the capacity to manufacture about units, between its own factory and contracting factory (collectively, "Choice's factories"). (Ex. O at ¶ 4.) Accordingly, even if all the units imported by Contec are infringing and enjoined, Choice's factories units, double of the have the capacity to manufacture additional units that the market may need after Contec is enjoined. (See id.)

The effectiveness of the patent system depends on the right to exclude infringing competition, which is the essence of patent rights. See Techtronic Indus. Co., Ltd. v. Chervon Holdings, Ltd., 395 F. Supp. 2d 720, 737 (N.D. Ill. 2005). Public policy favors granting preliminary injunctions when it appears that, absent such relief, patent rights will be flagrantly violated. See Henkel Corp. v. Coral, Inc., 754 F. Supp. 1280, 1323 (N.D. Ill. 1990). Copies of patented inventions, even when sold at cheap prices, inhibit innovation and incentive, and this detrimental effect, coupled with the public's interest in the judicial protection of property rights in inventive technology, outweighs any interests the public has in purchasing cheaper infringing oximeters. Douglas Dynamics v. Buyers Prods., 717 F.3d 1336, 1346 (Fed. Cir. 2013). Therefore, the public interest favors a preliminary injunction.

V. **CONCLUSION**

For all of the foregoing reasons, Choice respectfully requests that the Court preliminarily enjoin Contec from continuing in its infringement of the '308 patent.

Respectfully submitted.

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/s/ Steven P. Mandell Steven P. Mandell

Stephen J. Rosenfeld

MANDELL MENKES LLC One North Franklin Street, Suite 3600 Chicago, IL 60606 Phone: (312) 251-1001 smandell@mandellmenkes.com srosenfeld@mandellmenkes.com

Kathleen A. Daley (*pro hac vice* pending)
FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, LLP
901 New York Avenue NW
Washington, DC 20001
Phone: (202) 408-4000
Fax: (202) 408-4400
kathleen.daley@finnegan.com

Michael Liu Su (*pro hac vice* pending)
FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, LLP
3300 Hillview Avenue, Second Floor
Palo Alto, CA 94304
Phone: (650) 849-6600
Fax: (650) 849-6666
michael.liu.su@finnegan.com

ATTORNEYS FOR PLAINTIFF BEIJING CHOICE ELECTRONIC TECHNOLOGY CO., LTD.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the above and foregoing document has been served on February 1, 2018 by U.S. Mail and Federal Express to:

CONTEC MEDICAL SYSTEMS USA INC.	CONTEC MEDICAL SYSTEMS CO., LTD.	
111 Wheeling Rd, Wheeling, IL 60090	111 Wheeling Rd, Wheeling, IL 60090	
and	and	
1440 Chase Ave, Elk Grove Village, IL 60007	1440 Chase Ave, Elk Grove Village, IL 60007	

/s/ Steven P. Mandell

Steven P. Mandell Stephen J. Rosenfeld MANDELL MENKES LLC

ATTORNEY FOR PLAINTIFF BEIJING CHOICE ELECTRONIC TECHNOLOGY CO., LTD.